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Revenue Allocation and Socio-Economic Development in Nigeria: A Qualitative Assessment of Governance, Infrastructure, and Poverty Reduction in Akwa Ibom State (2015–2023)

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ABSTRACT: This study examines the nexus between revenue allocation and socio-economic development in Nigeria, with a particular focus on Akwa Ibom State, one of the country's major oil-producing regions. Revenue sharing remains one of the most contentious aspects of fiscal federalism, as the equitable distribution of national income directly influences both political stability and economic progress. Using a qualitative and historical research approach, the study relied on secondary data drawn from government publications, policy documents, and academic literature, which were analyzed using thematic analysis. The findings reveal that revenue allocation significantly impacts infrastructure development, poverty reduction, and social welfare. Proper fiscal distribution facilitates capital formation, enhances trade, and supports modernization through investments in roads, education, health, and technological innovation. However, despite increased federal allocations, Akwa Ibom State continues to face persistent development challenges, including poverty, unemployment, and infrastructural deficits. These are largely attributed to corruption, weak governance, poor project supervision, and political interference. The study also found that inequitable revenue distribution exacerbates regional

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disparities and undermines local economic autonomy, thereby hindering inclusive development. Furthermore, the study highlights that while federal revenue allocation has enabled the execution of key infrastructure projects such as the Uyo–Ikot Ekpene Road and Ibom International Airport, the overall socio-economic outcomes remain below potential due to inefficiencies in public resource management. The research concludes that institutional weaknesses and fiscal indiscipline continue to constrain sustainable development in Akwa Ibom State. Therefore, strengthening governance frameworks, promoting transparency and accountability, implementing performance-based budgeting, and encouraging public–private partnerships (PPPs) are essential for maximizing the developmental benefits of revenue allocation. Only through effective fiscal reforms and the eradication of corruption can revenue sharing serve as a true instrument of equitable growth and socio-economic transformation.

Keywords: *Revenue allocation, Fiscal federalism, Socio-economic development, Infrastructure, Poverty reduction, Governance and Corruption*

Introduction

Revenue sharing has remained a critical issue in fiscal federalism and national development discourse across the globe. It represents one of the most complex aspects of intergovernmental relations, particularly in resource-endowed nations where wealth distribution affects both political stability and socio-economic progress. According to Ezeabasili and Herbert (2021), revenue sharing refers to the equitable distribution of fiscal resources among various levels of government federal, state, and local based on established fiscal laws and constitutional provisions. This process ensures that all administrative units have sufficient financial resources to perform their constitutional responsibilities effectively. In resource-rich countries like Nigeria, the principle of derivation plays a pivotal role in determining the share of revenue accruing to states that contribute significantly to national income through natural resource production, particularly oil and gas (Ojo, 2018).

However, the debate over equitable revenue sharing in Nigeria remains unresolved. Disparities in allocation between the central and sub-national governments have generated tension and discontent among the federating units. Edo (2019) observes

that while some states consider the current revenue formula fair, others argue that it fails to reflect their contribution to national wealth, leading to fiscal injustice and vertical inequality. These inequalities often stem from political manipulation and weak institutional frameworks that hinder transparency and accountability in the revenue distribution process. Consequently, many states struggle to finance development programs, perpetuating poverty, unemployment, and underdevelopment despite their economic potential.

Socio-economic development indicators such as employment, poverty reduction, infrastructure, health, and education depend heavily on effective fiscal allocation and utilization (Ogbonna & Appah, 2020). The equitable distribution and prudent use of revenue enable governments to address regional disparities and promote inclusive growth. Nonetheless, as Ezeabasili and Herbert (2021) point out, the persistence of centralized fiscal control limits the fiscal autonomy of states and local governments, stifling their ability to initiate development projects tailored to local needs. This imbalance undermines grassroots development and sustains dependency on federal allocations.

In Akwa Ibom State, one of Nigeria's leading oil-producing states, the principle of derivation has brought considerable financial inflows from the federation account. Yet, the state continues to grapple with developmental challenges such as poor infrastructure, high unemployment rates, and widespread poverty (Otu, 2021). Despite substantial budgetary allocations for health, education, and economic empowerment, the outcomes have been limited, largely due to corruption, mismanagement of public funds, and a lack of political will (Adi & Okon, 2022). This paradox raises important questions about the relationship between revenue allocation and economic development in the state.

Against this background, the study seeks to examine the nexus between revenue sharing and socio-economic development in Akwa Ibom State, focusing on how revenue distribution promotes equitable growth and sustainable development across area of infrastructural and poverty reduction in Akwa Ibom State.

Research Design

The study adopted a qualitative and historical research approach, using secondary data from government reports, academic publications, and policy documents to examine revenue allocation and its impact on socio-economic development in Akwa Ibom State. Data were analyzed using thematic analysis, which identified key patterns and themes such as governance, policy implementation, and infrastructural growth. This approach enabled the researcher to interpret historical trends and contextual factors shaping revenue allocation, providing a deeper understanding of its role in the state's development over time.

Review of Conceptual and Operational Literature

Concept of Revenue Allocation

Revenue allocation represents a core element of fiscal federalism and intergovernmental relations, determining the financial capacity of different levels of government to perform their constitutional functions effectively. It involves the systematic distribution of national income among central, state, and local governments to promote balanced socio-economic development (Oates, 1999; Ukwueze, 2020). This process entails the allocation of revenues generated from various sources such as taxes, duties, royalties, and grants, ensuring that fiscal resources are equitably shared to enhance efficiency in public service delivery and stimulate economic growth. As a fiscal mechanism, revenue allocation operates within a legal and regulatory framework that seeks to preserve equity, accountability, and stability in governance (Musgrave & Musgrave, 1989; Adegbite & Ayadi, 2021).

Buchanan (1998) conceptualizes revenue allocation as a means of optimizing the provision of public goods and services to maximize social welfare. It ensures that financial resources are directed towards areas of greatest need while maintaining the fiscal autonomy of sub-national governments. Ekpo (2004) further asserts that the legal dimension of revenue allocation is crucial, as it establishes the parameters for resource distribution and safeguards the rights of different regions. The equitable allocation of revenue not only mitigates fiscal disparities but also fosters regional development and social cohesion, reducing inequalities among different parts of a

nation (Akindele, n.d.). Revenue allocation also reflects the political economy of power relations within a federation. According to Watts (1999) and Obi and Abayomi (2023), the way financial resources are distributed often mirrors the political structure, institutional strength, and bargaining capacity of various actors within the system. Hence, revenue allocation is not only an economic tool but also a political instrument that influences governance, social justice, and national unity. The allocation of revenue through the national budget process is therefore essential for the smooth functioning of government institutions, as it ensures that adequate funds are available for implementing public policies and achieving developmental objectives (Diamond, 2002; Ikenna & Okeke, 2022).

At the global level, Bird and Vaillancourt (1998) as well as Adedeji and Afolayan (2024) highlight the transnational dimensions of revenue sharing, emphasizing that fiscal transfers and international aid also function as mechanisms of economic cooperation and mutual development. This view underscores the growing interdependence of nations and the importance of equitable resource distribution in addressing global economic disparities. Similarly, the World Bank (2018) defines revenue allocation as the distribution of national income across key sectors such as education, health, and infrastructure to promote balanced national growth. Osuji and Nnadi (2023) align with this view, noting that adequate sectoral funding enhances credit access, service delivery, and overall social welfare. Smoke (1994) provides a decentralization perspective, explaining revenue allocation as the transfer of funds from the central government to sub-national entities to promote local governance, encourage accountability, and foster grassroots development. This approach enables local actors to take responsibility for community development while minimizing inefficiencies, corruption, and fiscal waste (Udoh & Ekanem, 2022). Furthermore, Arowolo (2011) and Omole and Ayo (2023) argue that effective revenue allocation improves policy implementation and reduces the potential for misappropriation by ensuring that resources are distributed transparently and used to maximize societal benefit.

Principles of Revenue Allocation in Nigeria

Revenue allocation in federal systems is guided by a set of principles designed to promote fairness, balance, and development among different regions. These principles ensure that fiscal resources are distributed in ways that reflect economic realities, social needs, and geographical constraints. The principle of horizontal equity, for instance, assesses whether revenue distribution is fair among regions with differing ecological and economic conditions particularly between the northern and southern parts of the country. However, the legal framework for revenue sharing in Nigeria has not always ensured equity, as disparities persist in the distribution of national income among regions (Oates, 1999; Ezeabasili & Herbert, 2021).

i. Derivation Principle

The derivation principle emphasizes that regions contributing significantly to national revenue, especially through natural resource exploitation, should receive a commensurate share of that revenue. This principle ensures that producing areas benefit directly from their resources, thereby fostering regional development and reducing feelings of marginalization. However, critics argue that it neglects the principle of national unity and may deepen regional disparities (Mbanefoh & Egwaikhide, 1998; Enyia, 2020).

ii. Population Principle

The population principle allocates resources based on the size of the population within each state or region. It assumes that a larger population corresponds to higher demand for public goods and services such as health, education, and infrastructure. Despite its logic, population-based allocation is often complicated by political manipulation of census figures and disputes over demographic accuracy (Riker, 1964; Igbuzor, 2020).

iii. Needs Principle

The needs principle focuses on channeling resources to regions with greater developmental challenges. It considers levels of poverty, infrastructural deficits, and socio-economic inequalities. The principle aims to reduce regional imbalances by

directing funds to underdeveloped areas. Nonetheless, its implementation requires accurate data and a reliable mechanism for assessing regional needs, which remain weak in practice (Akinsanya, 2002).

iv. National Interest Principle

The national interest principle prioritizes projects and expenditures that serve the collective good of the nation, such as defense, highways, and nationwide infrastructure. It seeks to balance local interests with broader national goals. However, the principle is often undermined by political interference and competing regional demands, making it difficult to align public spending with national priorities (Musgrave & Musgrave, 1989; Adegbite & Ayadi, 2021).

v. Landmass and Terrain Principle

Under the landmass and terrain principle, resource distribution takes into account the geographical size and physical characteristics of regions. States with larger land areas or more challenging terrains may require higher allocations to meet infrastructure and service delivery costs. While this principle promotes equity in theory, developing a fair and accurate formula for assessing geographical challenges remains a major obstacle (Oates, 1999; Ukwueze, 2020).

vi. Fiscal Efficiency Principle

The fiscal efficiency principle promotes responsible and efficient management of allocated resources. It emphasizes that regions demonstrating better fiscal discipline and accountability should be incentivized with greater support. Fiscal efficiency thus encourages transparency, good governance, and optimal resource utilization for sustainable development (Buchanan, 1950; Maduabum, 2022).

vii. Environmental Sustainability Principle

The principle of environmental sustainability integrates ecological considerations into fiscal policy. It advocates that revenue allocation should account for the environmental costs of resource exploitation, ensuring that affected communities are compensated for ecological degradation. This principle aligns with global standards

of sustainable development, emphasizing the need to balance economic growth with environmental preservation and social justice (Watts, 1999; Delivering, 2015).

Structure and Components of Revenue Allocation in Nigeria

Revenue allocation in Nigeria refers to the systematic fiscal framework through which public funds are distributed among the three tiers of government federal, state, and local to promote balanced development and ensure efficient service delivery. It embodies a mechanism for fiscal decentralization that allows each level of government to perform constitutionally assigned functions effectively (Oates, 1999; Arowolo, 2011). The structure of Nigeria's revenue allocation system is built on various accounts and funds that determine the sources, distribution, and utilization of public revenues.

i. The Federation Account

The Federation Account serves as the central pool into which all revenues collected by the federal government from both oil and non-oil sources are deposited before distribution. It represents the largest and most significant source of public finance in Nigeria. The revenues in this account are shared among the federal, state, and local governments based on an allocation formula determined by law and fiscal policies. The aim is to ensure that national income benefits all levels of governance while maintaining macroeconomic stability (Igbuzor, 2020; Arowolo, 2011).

ii. Value Added Tax (VAT)

The Value Added Tax (VAT) system constitutes another major component of Nigeria's revenue structure. VAT is collected from goods and services across the federation and pooled into a central VAT Fund, which is subsequently distributed among the three tiers of government. A larger proportion of VAT proceeds goes to the state and local governments to enhance fiscal autonomy and reduce overdependence on oil revenue. This approach also stimulates internally generated revenue (IGR) by encouraging states to diversify their economic activities (Omole & Ayo, 2023; Adedeji & Afolayan, 2024).

iii. Excess Crude Account (ECA)

The Excess Crude Account (ECA) was established as a stabilization mechanism to cushion the Nigerian economy against oil price volatility. It captures surplus earnings accrued when actual crude oil prices exceed the budget benchmark. The ECA acts as a fiscal buffer, ensuring intergenerational equity and macroeconomic stability. Funds from this account are periodically distributed to the three levels of government, especially during economic downturns, to support public spending and sustain development (Bird & Vaillancourt, 1998; Agholor & Udo, 2024).

iv. Derivation Fund

The Derivation Fund is specifically designed to compensate oil-producing states for the environmental and infrastructural impact of resource extraction. It is derived from the constitutional principle of derivation, which mandates that a fixed percentage of revenues generated from natural resources be returned to the producing regions. The fund aims to mitigate interregional disparities and foster economic justice, particularly in the Niger Delta, which bears the brunt of oil exploration (Ekpo, 2004; Agbese & Ukaogo, 2023).

v. Special Funds

Special Funds are allocations reserved for specific national objectives, including ecological management, national security, and critical infrastructural development. These funds serve as strategic instruments for addressing sectoral priorities that transcend regional boundaries. However, their management has often been marred by lack of transparency, poor accountability, and political interference, raising concerns about their effectiveness (Akindele & Olaopa, 2002; Chigbu & Ukaegbu, 2021).

vi. Local Government Allocations

Local Government Allocations represent the funds distributed to local government areas (LGAs) from the Federation Account and VAT Pool. These allocations enable LGAs to perform grassroots development functions such as primary education, health care, and local infrastructure provision. Ensuring effective utilization of these

funds requires improved governance, transparency, and accountability at the local level (Tounoin, 2004; Kaneleo & Kayathu, 2022).

Concept of Socio-Economic Development

Socio-economic development is a continuous and multifaceted process that encompasses both economic growth and social progress. According to the United Nations Development Programme (UNDP, 2009), socio-economic development involves enhancing economic output while improving living standards and addressing critical issues such as poverty, inequality, and access to education. The World Bank (2020) similarly emphasizes that true development occurs when increased income is coupled with universal access to essential services such as health and education. Amartya Sen (1999) expands this view by asserting that development should not be defined solely by economic growth but by the expansion of human freedoms and capabilities. In this sense, sustainable development requires economic growth that simultaneously advances social justice, equality, and environmental sustainability (Rogers, 2008). Investments in human capital—such as health, education, and infrastructure play a pivotal role in supporting inclusive development and ensuring long-term economic stability (IMF, 2019).

The assessment of socio-economic development relies on several key indicators. Gross Domestic Product (GDP) per capita measures a country's average economic output and serves as a basic indicator of material well-being; however, it fails to capture inequality, non-market activities, and environmental degradation (Mankiw, 2023; Stiglitz, Sen, & Fitoussi, 2009). The Human Development Index (HDI), introduced by UNDP (2020), integrates three dimensionshealth, education, and income to provide a more comprehensive understanding of well-being. Yet, it too has limitations, as it does not adjust for inequality or sustainability concerns (Stiglitz et al., 2009). The poverty rate, often measured using absolute or relative poverty lines, reflects the proportion of people living below a minimum standard of living (Ravallion, 1998; Atkinson, 2015). A lower poverty rate indicates improved living conditions and more equitable resource distribution (Sen, 1999). The literacy rate, representing the proportion of individuals aged 15 and above who can read and write,

measures educational attainment and the development of human capital (UNESCO, 2020).

Access to clean water and sanitation is another vital indicator, as it directly affects public health, productivity, and living conditions (WHO & UNICEF, 2000). Similarly, the employment rate measures the proportion of the working-age population engaged in productive activities, serving as a marker of economic stability and social inclusion (Blanchard, 2006; Katz & Krueger, 2016). Health indicators such as infant mortality rate and life expectancy at birth reveal the effectiveness of healthcare systems and overall living standards (Black et al., 2013; World Bank, 2020). Access to education promotes innovation, productivity, and income equality, reinforcing the link between human capital formation and long-term development (Psacharopoulos & Patrinos, 2018; Hanushek & Woessmann, 2020). Meanwhile, health expenditure reflects a nation's commitment to improving public health, with higher investment associated with better outcomes and productivity (Kutzin, 2013; WHO, 2022). Infrastructure development including transport, energy, and communication facilitates trade, reduces costs, and supports economic growth (Calderón & Servén, 2010; Foster & Briceño-Garmendia, 2010). Economic diversification reduces dependency on single sectors, enhancing resilience and innovation (Imbs & Wacziarg, 2003; Klinger & Lederman, 2004). Lastly, the Gender Equality Index measures disparities between men and women across education, work, and political participation, emphasizing that gender equality contributes to productivity and social cohesion (EIGE, 2021; World Economic Forum, 2023).

Review of Empirical Literature

A series of empirical studies have examined how revenue allocation influences socio-economic development in Akwa Ibom State, Nigeria, with particular attention to its impact on infrastructure, health, education, employment, and poverty reduction. Ezeani (2019) conducted a study on the role of revenue allocation as a catalyst for socio-economic development, focusing on the utilization of federal allocations for infrastructure, healthcare, and educational improvements. Using secondary data obtained from national accounts and budget reports, the study employed regression and descriptive statistics for analysis. The findings revealed that revenue allocation

contributes significantly to infrastructural development and poverty alleviation, but these benefits are often undermined by corruption and mismanagement. The study concluded that enhanced transparency and stronger oversight mechanisms are vital to ensure that revenue allocations translate effectively into socio-economic development. It further recommended strengthening institutional frameworks to ensure that public revenues are efficiently managed and effectively utilized for developmental purposes.

Akinwale (2021) investigated the effect of revenue allocation on employment generation in Akwa Ibom State, focusing on job creation and unemployment reduction. Using panel data derived from employment and revenue reports, the study found that revenue allocation has supported job creation but that disparities exist across different regions. Akinwale recommended that employment programs be tailored to regional needs and aligned with local market demand to enhance labor productivity and ensure equitable employment opportunities. In the education sector, Idris (2022) examined how revenue allocation influences educational development in Akwa Ibom State, focusing on funding for educational infrastructure and the quality of education. Using descriptive statistics and correlation analysis on secondary data from government and institutional reports, the study found that increased revenue allocation has improved educational infrastructure but that disparities persist in the quality of education across regions. Idris concluded that while revenue allocation promotes educational development, more equitable distribution of funds and targeted investment in less-developed educational zones are necessary to achieve balanced progress. Uchendu (2020) studied the relationship between revenue allocation and healthcare development in Akwa Ibom State. Using a combination of surveys from selected healthcare facilities and secondary health sector data analyzed through regression and thematic analysis, the study found that revenue allocation has enhanced healthcare infrastructure but that service delivery remains poor, particularly in rural areas. Uchendu recommended increased funding to the health sector and improved service delivery mechanisms to ensure equitable access to quality healthcare.

Addressing rural development, Nkongho (2021) employed a mixed-methods approach combining field surveys and development project analyses to investigate how revenue allocation supports rural infrastructure projects. The study revealed that while revenue allocation has facilitated rural infrastructure improvements, inefficiencies in resource distribution and weak project implementation have limited its effectiveness. The study concluded that stronger monitoring and evaluation systems are essential to enhance project success and ensure sustainable rural development outcomes. Okon (2022) examined the relationship between revenue allocation and economic growth in Akwa Ibom State using econometric modeling and national revenue data. The findings showed a positive but uneven relationship, indicating that while revenue allocation contributes to economic growth, disparities persist across regions. Okon recommended policy measures to ensure that the benefits of economic growth are distributed more equitably across the state. Complementing this, Effiong (2023) investigated the influence of revenue sharing on infrastructure development through interviews with local government officials and analysis of development records. Using a qualitative case study approach, Effiong found that revenue allocations have supported major infrastructure projects, though challenges in project completion and maintenance persist. The study concluded that improved project management, monitoring, and maintenance are essential for maximizing the developmental impact of revenue allocation.

Revenue Allocation and Socio-Economic Development: the Nexus

The study of income distribution, revenue allocation, and socio-economic development reveals that financial and material resources play a vital role in human development within a country. Revenue allocation refers to the distribution of government income derived from taxes, natural resources, and other sources among various levels of government and sectors to promote national welfare and social progress. The significance of proper revenue allocation in fostering economic development cannot be overstated. According to the World Bank (2020), channeling revenue into infrastructure projects such as roads, bridges, and public transportation promotes capital formation by increasing connectivity and reducing transaction costs. Investment in infrastructure not only lowers the prices of goods and services for local

businesses but also stimulates regional integration and economic activity. Moreover, allocating revenue to research and technological innovation supports long-term economic development by driving productivity and modernization.

A clear distinction exists between revenue allocation and social welfare, although both are closely linked. The International Monetary Fund (IMF, 2019) highlights that allocating public funds toward essential sectors such as healthcare, education, and social protection produces significant social benefits. For instance, investment in healthcare reduces mortality rates and enhances quality of life, while funding education improves literacy and skill development, thus contributing to economic growth. Likewise, revenue directed toward social welfare programs such as pensions and unemployment benefits acts as a safety net, cushioning vulnerable populations against economic shocks. By stabilizing livelihoods during downturns, these allocations promote social equity and cohesion.

Poverty alleviation is also a central focus of effective revenue allocation. The United Nations Development Programme (UNDP, 2015) asserts that channeling government revenue into poverty-reduction projects such as microfinance, food security, and affordable housing empowers marginalized populations and generates new economic opportunities. When governments prioritize income-generating initiatives, education, and healthcare in low-income communities, they tackle the structural causes of poverty, leading to more inclusive and sustainable development. Furthermore, equitable revenue distribution helps reduce regional disparities. Dreze and Sen (2002) argue that uneven resource allocation exacerbates inequality between developed and underdeveloped regions, hindering national progress. Allocating revenues to less developed areas for infrastructure and service provision stimulates local economies and ensures all regions share in national growth. Equitable revenue sharing therefore promotes inclusive development, prevents social unrest, and strengthens national unity.

However, efficient revenue allocation depends heavily on good governance and strong institutions. Rogers (2007) emphasizes that transparency, accountability, and institutional integrity are essential for effective fiscal management. Governments must ensure that resources are distributed based on merit and need rather than

corruption or political favoritism. Strong institutions are responsible for planning, implementing, and monitoring revenue use, ensuring that allocations achieve their intended developmental outcomes. Conversely, weak governance and corruption undermine the effectiveness of revenue distribution, leading to inefficiency and misallocation of resources. Lastly, equitable and sustainable revenue sharing must align with environmental goals. The World Health Organization (WHO, 2016) notes that sustainable development depends on integrating economic, social, and environmental objectives in resource allocation. Governments should prioritize funding for renewable energy, environmental conservation, and green technologies to minimize ecological degradation while supporting economic growth. Investment in sustainable agriculture and environmental protection enhances food security, reduces pollution, and creates resilient livelihoods. Therefore, efficient revenue allocation not only supports economic expansion but also ensures that development is environmentally responsible and socially equitable.

Revenue Allocation and Infrastructural Development Projects in Akwa Ibom State from 2015-2023. An Assessment

Revenue allocation plays a critical role in driving infrastructural development in Akwa Ibom State, serving as a major instrument for regional transformation and economic growth. Federal revenues are deposited into the Federation Account, from which funds are disbursed to various tiers of government through the Federation Account Allocation Committee (FAAC) to support capital and developmental projects. In Akwa Ibom State, these allocations have been instrumental in financing large-scale infrastructure projects that enhance connectivity, promote trade, and stimulate regional development. As noted by Usoro (2020), federal revenue allocations have funded the construction of key infrastructural projects such as the *Uyo–Ikot Ekpene Road* and the *Ibom International Airport*, both of which are vital to improving mobility, facilitating commerce, and promoting regional integration. These projects have strengthened inter-community accessibility, improved logistics efficiency, and supported tourism and investment within the state.

Furthermore, federal allocations have significantly improved public utilities such as the power distribution network and water supply systems. According to Ekanem

(2021), these infrastructural investments have enhanced the quality of life for residents by ensuring better access to basic services while also stimulating local economic activities. Improved infrastructure, in turn, has created an enabling environment for business operations, boosted productivity, and expanded investment opportunities. Similarly, Umo-Udo et al. (2023) assert that the infrastructural expansion driven by revenue allocation has been essential for the state's economic diversification and long-term development. By fostering improved transportation, communication, and energy systems, Akwa Ibom has positioned itself as a hub for industrial and commercial growth in the Niger Delta region.

Despite these advancements, several challenges continue to impede the optimal utilization of revenue allocations for infrastructural development. Chief among these are corruption, poor governance, and administrative inefficiency, which often lead to project abandonment, cost inflation, and substandard construction. Ekpenyong (2022) observes that in many cases, funds earmarked for infrastructure development are either misappropriated or mismanaged, resulting in projects that remain incomplete or fail to meet design and safety standards. The lack of effective monitoring and supervision further exacerbates these issues, undermining the developmental potential of federal allocations. To address these challenges, Akpan (2023) recommends the implementation of stricter oversight mechanisms, improved project management frameworks, and transparent procurement systems to ensure that public funds are used effectively. Additionally, land acquisition, monitoring, and timely project execution must be prioritized to facilitate sustainable infrastructural growth and maximize the economic impact of federal revenue allocation in Akwa Ibom State.

Revenue Allocation and Poverty Reduction in Akwa Ibom State. The Nexus

The relationship between revenue allocation and poverty eradication in Akwa Ibom State is complex, involving multiple interconnected dimensions of social welfare and economic development. Over the years, federal revenue allocations have been instrumental in financing programs aimed at reducing poverty and improving living standards across the state. These funds have been channeled into essential sectors such as health, education, and social services, forming a cornerstone of the state's

welfare and development strategy (Akpan, 2022). Through targeted investments in these key areas, revenue allocation has functioned as a mechanism for social intervention, helping the government to address poverty by improving access to critical public goods and services.

Public funds from revenue allocations have been strategically directed toward enhancing social services that directly benefit low-income families. For example, Effiong (2023) notes that investments in healthcare such as the construction and management of medical facilities have enabled disadvantaged populations to access quality medical care, reducing health disparities and improving overall well-being. Similarly, educational investments such as the construction and rehabilitation of schools have expanded access to education, boosted enrollment, and improved learning outcomes, which are essential for breaking the cycle of poverty through human capital development (Essien, 2021). These initiatives illustrate how revenue allocation, when properly managed, can empower marginalized groups, enhance productivity, and foster socio-economic inclusion.

Social welfare interventions financed by revenue allocation have also been central to modern development efforts in Akwa Ibom State. By improving access to healthcare, education, and income-generating opportunities, these interventions enhance productivity, income-earning capacity, and health status thereby reducing poverty levels and contributing to sustainable development (Akpan, 2022). When effectively implemented, such programs not only address immediate welfare needs but also create long-term structural changes that promote inclusive growth and community empowerment. However, despite these achievements, poverty reduction through revenue allocation in Akwa Ibom State has not been evenly distributed. Evidence suggests that disparities persist between urban and rural areas, often as a result of bureaucratic inefficiency, corruption, and poor implementation. According to Ekpo (2022), the mismanagement of funds and unequal distribution of benefits have led to situations where rural communities receive fewer poverty alleviation resources compared to their urban counterparts. These imbalances have contributed to uneven development and have limited the overall effectiveness of poverty reduction efforts.

Challenges of Revenue Allocation in Nigeria

Despite the measures designed to ensure fairness in Nigeria's revenue allocation system, several persistent challenges have hindered equitable distribution and efficient utilization of resources. One major issue is resource control agitation, particularly from oil-producing states demanding a greater share of the revenue generated from their resources. These states argue that such funds are necessary to address environmental degradation and developmental deficits caused by oil exploration. However, the federal government's attempts to balance these demands with national interests have led to tension and conflict (Watts, 2004; Azaiki & Okoye, 2021).

Corruption and mismanagement also remain central obstacles to effective revenue allocation. Funds meant for development projects, infrastructure, and service delivery are often diverted through fraudulent practices, weakening the impact of fiscal transfers. This problem underscores the need for greater transparency, accountability, and institutional reform in Nigeria's revenue management system (Enyia, 2020; Obiora & Edeh, 2024). Another concern is inadequate distribution, as the current revenue-sharing formula does not sufficiently address inter-regional disparities or developmental needs. Some northern regions view the formula as disproportionately favoring oil-producing states, while others criticize it for neglecting factors like population size and poverty levels (Mbanefoh & Egwaikhide, 1998; Igbuzor, 2020).

Additionally, political influence and lobbying have distorted the allocation process. Political elites and bureaucrats often manipulate the system for personal or regional gain, undermining equity and fairness. Strengthening institutions and promoting transparency are essential to mitigating this issue (Buchanan, 1950; Maduabum, 2022). A further challenge is Nigeria's dependence on oil revenues, which makes the country vulnerable to global oil price fluctuations. Revenue instability disrupts budget planning and undermines the consistency of development programs. Diversifying the economy into sectors such as agriculture, manufacturing, and services is critical for achieving a more resilient and stable revenue allocation framework (Oates, 1999; Ukwueze, 2020).

Compounding these issues are census controversies, as accurate population data are vital for fair revenue distribution. Disputes over census results have led to mistrust and questions about the legitimacy of allocation figures. To ensure equity, Nigeria must strengthen its population data systems and adopt transparent census practices (Riker, 1964; Igbuzor, 2020). Lastly, environmental challenges particularly in oil-producing communities pose significant obstacles to fair revenue allocation. Environmental degradation resulting from resource extraction demands targeted compensation and investment in environmental restoration and sustainability programs (Ekpo, 2004; Agbese & Ukaogo, 2023).

Theoretical Framework

In an attempt to place this work on a scientific footing, the authors adopted Fiscal Federalism as the theoretical framework. The theory of Fiscal Federalism was proposed by Richard Musgrave in the 1950s, seventy years following Italian unification, and argues that revenues ought to be divided amongst various levels of government so as to ensure the efficient provision of public goods. Consequently, Musgrave was rather inclined to accept that the central government must engage in national coordination along the lines of defense and international diplomacy, with the local governments meeting ad hoc needs such as education or public transportation (Musgrave, 1959).

This theory has several assumptions: first, it is assumed that different government levels are suitable to provide different types of services since central governments are best suited to carry out macroeconomic functions, while services with specific local needs are the task of local governments. Second, there is the assumption that matching revenue responsibilities with functional responsibilities contributes to the efficiency of resource allocation by either hindering duplication or ensuring the correct application of public resources (Musgrave, 1959). Third, the theory posits that if local governments exercise control over certain resources and also assume accountabilities, their service delivery will somehow be more responsive and efficient due to enhanced local autonomy and accountability (Musgrave, 1959).

Fiscal Federalism Theory actually made quite an environmental impact on socio-economic development. It provides for harmonious allocation of resources, ensuring that their allocation corresponds with the levels of administration and capacity for development exercised by the state governments. It is also concerned with local economic development. One of the main principles of the theory is that service provision should be based on local needs so that service delivery can be improved and all levels of local satisfaction can be met (Oates, 1999). Therefore, and based on the fiscal federalism theory, socio-economic development can be enhanced through coordination between government functions and their resources at different levels and public goods and services delivery (Oates, 1999).

Findings and Discussion of findings

The Findings of the study show that **revenue allocation,** which involves distributing government income from taxes, natural resources, and other sources among different tiers of government, directly influences infrastructure development, poverty reduction, and overall social welfare. When appropriately managed, revenue allocation fosters economic growth by financing **infrastructure projects** such as roads, bridges, and public utilities that enhance connectivity, promote trade, and reduce transaction costs (World Bank, 2020).

The study also found that **social welfare and revenue allocation** are deeply interlinked. Investment in health, education, and social protection significantly improves quality of life and stimulates inclusive growth. According to the IMF (2019), public funding in these sectors reduces mortality rates, boosts literacy, and empowers vulnerable groups through social safety nets like pensions and unemployment benefits.

At the state level, findings from **Akwa Ibom State (2015–2023)** indicate that federal revenue allocations have been instrumental in driving infrastructural expansion and economic transformation. Major projects, including the *Uyo–Ikot Ekpene Road* and *Ibom International Airport*, were identified as key investments funded through federal allocations, facilitating regional integration and improving mobility (Usoro, 2020). Additional findings show improvements in **power distribution networks,**

water supply systems, and **public utilities,** all of which have contributed to enhanced living standards and business growth (Ekanem, 2021; Umo-Udo et al., 2023). However, persistent issues such as **corruption, weak governance, and poor project supervision** have reduced the effectiveness of these allocations, often leading to incomplete or substandard projects (Ekpenyong, 2022). The study further established a strong relationship between **revenue allocation and poverty reduction** in Akwa Ibom State. Allocations targeted toward healthcare, education, and social welfare have improved living conditions and reduced poverty rates (Akpan, 2022). Investments in healthcare have expanded access to medical services for low-income families (Effiong, 2023), while educational funding has increased enrollment and literacy levels, thereby enhancing human capital (Essien, 2021). However, findings revealed **uneven distribution of poverty alleviation benefits,** with rural areas often receiving fewer resources due to **bureaucratic inefficiency, corruption, and policy inconsistencies** (Ekpo, 2022).

Despite these successes, the study identified **significant challenges in Nigeria's revenue allocation framework** that hinder its equitable and efficient implementation. Key issues include **resource control agitations** from oil-producing states, **corruption and mismanagement** of public funds, **political interference,** and **economic dependence on oil revenues** (Watts, 2004; Enyia, 2020; Oates, 1999). These challenges contribute to regional disparities, poor infrastructure performance, and limited socio-economic inclusivity. Furthermore, **census controversies** and **inaccurate population data** have undermined fair distribution, while environmental degradation in oil-producing regions has further complicated equitable allocation (Ekpo, 2004; Agbese & Ukaogo, 2023).

Conclusion

The study concludes with evidence-based findings. Up until now, governance inefficiencies, corruption, and lack of financial accountability have denied sustainable development to Akwa Ibom State. The study supports the theoretical position of Acemoglu and Robinson (2012) and North (1990) against the ill effect of weak institutions and failed governance on economic development. There is no transparency in public finance; revenue use has remained inefficient and, thus, has

very few developmental outcomes. These problems are intensified by public-sector corruption. The bungling of the allocation of public resources would translate to poor provision of public services like infrastructure and education. Besides this, the mismanagement of funds from the Federation Account would prevent capital deployment in productive sectors that generate employment and provide the basis for economic diversification. With the given explanation, the aforementioned problems could only be resolved through comprehensive governance reforms that are aimed at fiscal discipline, enrichment of the accountability mechanisms, and ensuring that all public resources are well-utilized in development. Otherwise, from this perspective, poverty, unemployment, and infrastructural deficits will continue to hit every nook and cranny of Akwa Ibom State, leaving it incapable of any sluggish progression.

Recommendations

i. The government at the state level may have to put in place good governance systems that give the highest priority to transparency and accountability in resource management. Some sort of e-governance may be implemented, to achieve greater efficiency and fiscal prudence in some areas of reforms in public financial management.

ii. The government should make sure that the revenue allocations are utilized for poverty alleviation programs, and this shall be through performance-based budgeting and public expenditure monitoring of social development.

iii. The anti-corruption mechanism in education may have to be reinforced strongly to prevent diversion of funds. Independent watchdogs and transparent procurement processes will help in curbing inefficient resource allocation in education and human capital development.

iv. Revenues standing to the federation account should be utilized by the government for the building of productive infrastructure that provides employment opportunities. More PPPs should be promoted to attract investments into the infrastructure and, therefore, create jobs.

References

1. Abasi, I. (2023). *Revenue allocation and poverty reduction strategies in Akwa Ibom State.* Journal of Social and Economic Policy, 19(1), 56–72.
2. Adedeji, O., & Afolayan, J. (2024). *Fiscal decentralization and intergovernmental fiscal relations in Nigeria.* Lagos: University Press.
3. Adegbite, O., & Ayadi, F. (2021). *Fiscal policy and governance stability in emerging economies.* Journal of Public Finance, 16(2), 43–59.
4. Adedeji, T., & Afolayan, B. (2024). *Global fiscal transfers and equitable development.* International Journal of Economics and Policy Reform, 11(1), 101–120.
5. Adegboye, T., & Oyebode, K. (2018). *Revenue allocation and poverty alleviation programs in Akwa Ibom State.* Journal of Public Policy and Development Studies, 6(2), 45–59.
6. Adi, S., & Okon, E. (2022). *Public finance management and governance challenges in Nigeria.* Journal of Development Studies, 14(2), 85–98.
7. Agbese, P., & Ukaogo, V. (2023). *Environmental governance and resource conflicts in Nigeria's Niger Delta.* University of Nigeria Press.
8. Agbese, P., & Ukaogo, V. (2023). *Resource control and the politics of derivation in Nigeria's federalism.* Enugu: Fourth Dimension Publishers.
9. Agholor, D., & Udo, J. (2024). *Oil price volatility and fiscal stabilization mechanisms in Nigeria.* Journal of African Economic Studies, 9(1), 44–61.
10. Akindele, S. (n.d.). *Fiscal federalism and equitable development in Nigeria.* Unpublished manuscript.
11. Akindele, S. T., & Olaopa, O. (2002). *Fiscal management and accountability in Nigeria.* Ibadan: Spectrum Books.

12. Akinsanya, A. (2002). *Intergovernmental fiscal relations in Nigeria.* Lagos: NIIA Press.
Buchanan, J. M. (1950). *Federalism and fiscal equity.* American Economic Review, 40(4), 583–599.

13. Akinwale, A. (2021). *Revenue allocation and employment generation in Akwa Ibom State.* African Journal of Economic Policy, 28(3), 112–128.

14. Akpan, J. (2022). *Public finance, social welfare, and poverty alleviation in Akwa Ibom State.* African Journal of Development Studies, 14(3), 101–117.

15. Akpan, J. (2023). *Revenue allocation, project supervision, and infrastructural development in Akwa Ibom State.* Journal of Public Administration and Development, 14(2), 45–59.

16. Alkire, S., & Santos, M. E. (2014). *Measuring acute poverty in the developing world: Robustness and scope of the multidimensional poverty index.* World Development, 59, 251–274.

17. Arowolo, D. (2011). *Fiscal federalism in Nigeria: Theory and practice.* International Journal of Management and Social Sciences, 3(2), 25–38.

18. Aschauer, D. A. (1989). *Is public expenditure productive?* Journal of Monetary Economics, 23(2), 177–200.

19. Atkinson, A. B. (2015). *Inequality: What can be done?* Harvard University Press.
Becker, G. S. (1993). *Human capital: A theoretical and empirical analysis, with special reference to education.* University of Chicago Press.

20. Azaiki, S., & Okoye, C. (2021). *Oil, politics, and development in Nigeria.* Ibadan University Press.
Buchanan, J. M. (1950). *Federalism and fiscal equity.* American Economic Review, 40(4), 583–599.

21. Bird, R., & Vaillancourt, F. (1998). *Fiscal decentralization in developing countries.* Cambridge University Press.

22. Black, R. E., et al. (2013). *Global causes of child mortality.* The Lancet, 382(9890), 155–167.

23. Blanchard, O. (2006). *Macroeconomics.* Pearson Education.

24. Buchanan, J. M. (1998). *Public finance in democratic process: Fiscal institutions and individual choice.* University of North Carolina Press.

25. Calderón, C., & Servén, L. (2010). *Infrastructure and economic development in Sub-Saharan Africa.* Journal of African Economies, 19(suppl_1), i13–i87.

26. Chigbu, E., & Ukaegbu, M. (2021). *Fiscal transparency and management of special funds in Nigeria.* Journal of Public Administration and Governance, 11(4), 60–77.

27. Delivering, T. (2015). *Environmental governance and sustainable development.* United Nations Development Programme (UNDP) Report.

28. Diamond, J. (2002). *Budget systems and fiscal discipline: The basics of good financial management.* International Monetary Fund.

29. Dreze, J., & Sen, A. (2002). *India: Development and participation.* Oxford University Press.
International Monetary Fund (IMF). (2019). *World Economic Outlook: Global Manufacturing Downturn, Rising Trade Barriers.* IMF.

30. Edo, V. (2019). *Revenue allocation and intergovernmental fiscal relations in Nigeria.* Journal of Policy and Development Studies, 6(3), 44–58.

31. Effiong, M. (2023). *Revenue allocation and healthcare accessibility in Akwa Ibom State.* Nigerian Journal of Social Sciences, 27(2), 88–103.

32. Ekanem, P. (2021). *Infrastructure development and quality of life in Akwa Ibom State: The role of federal revenue allocation.* Nigerian Journal of Economic and Social Studies, 63(1), 112–127.

33. Ekpenyong, U. (2022). *Corruption and mismanagement in Nigeria's infrastructural financing: Evidence from Akwa Ibom State.* African Governance Review, 17(3), 77–93.

34. Ekpo, A. (2004). *Intergovernmental fiscal relations in Nigeria: Issues and challenges.* Nigerian Journal of Economic Policy, 9(2), 22–40.

35. Ekpo, A. (2022). *Governance challenges and uneven poverty alleviation outcomes in Akwa Ibom State.* International Journal of Economic Development and Policy Reform, 10(4), 66–81.

36. Ekpo, A. H. (2004). *Intergovernmental fiscal relations: The Nigerian experience.* Paper presented at the 10th Year Anniversary of the Financial and Fiscal Commission, South Africa.

37. Enyia, C. D. (2020). *Fiscal decentralization and intergovernmental relations in Nigeria.* Journal of African Policy Studies, 8(1), 65–79.

38. Enyia, C. D. (2020). *Fiscal transparency and governance in Nigeria.* Journal of Public Administration, 45(2), 88–103.

39. Essien, U. (2021). *Education, human capital development, and poverty reduction in Akwa Ibom State.* Journal of Educational Research and Development, 12(2), 74–90.

40. Ezeabasili, A., & Herbert, R. (2021). *Fiscal federalism and revenue sharing in resource-dependent economies.* Nigerian Journal of Economic Policy, 18(1), 67–84.

41. Ezeani, S. (2019). *Revenue allocation and socio-economic development in Akwa Ibom State.* International Journal of Economics and Management Studies, 5(4), 76–89.

42. Foster, V., & Briceño-Garmendia, C. (2010). *Africa's infrastructure: A time for transformation.* World Bank.

43. Hanushek, E. A., & Woessmann, L. (2020). *The economic impacts of learning losses.* OECD.

44. Idris, M. (2022). *Revenue allocation and educational development in Akwa Ibom State.* Journal of Education and Social Research, 12(2), 133–147.

45. Igbuzor, O. (2020). *Population and resource allocation in federal systems.* Abuja: Centre for Policy and Development.

46. Ikenna, U., & Okeke, E. (2022). *Budget implementation and public sector efficiency in Nigeria.* Journal of Economics and Public Policy, 13(3), 75–89.

47. IMF. (2019). *World Economic Outlook: Global Manufacturing Downturn, Rising Trade Barriers.*

48. Kaneleo, B., & Kayathu, N. (2022). *Local government financing and accountability in sub-Saharan Africa.* Journal of Development Economics, 15(3), 71–89.

49. Katz, L. F., & Krueger, A. B. (2016). *The rise and nature of alternative work arrangements in the United States, 1995–2015.* NBER.

50. Kutzin, J. (2013). *Health financing for universal coverage and health system performance: Concepts and implications for policy.* Bulletin of the World Health Organization, 91, 602–611.

51. Mankiw, N. G. (2023). *Principles of Economics* (10th ed.). Cengage Learning. Psacharopoulos, G., & Patrinos, H. A. (2018). *Returns to investment in education: A decennial review of the global literature.* Education Economics, 26(5), 445–458.

52. Maduabum, C. (2022). *Fiscal responsibility and economic management in Nigeria.* Journal of Public Administration and Finance, 12(3), 21–39.

53. Mbanefoh, F., & Egwaikhide, F. (1998). *Revenue allocation and fiscal federalism in Nigeria.* Ibadan: Nigerian Economic Society.

54. Musgrave, R. A., & Musgrave, P. B. (1989). *Public finance in theory and practice.* McGraw-Hill.

Oates, W. (1999). *An essay on fiscal federalism.* Journal of Economic Literature, 37(3), 1120–1149.

55. Nkongho, P. (2021). *Revenue allocation and rural development in Akwa Ibom State.* Journal of Rural and Community Development, 16(4), 66–82.

56. Oates, W. (1999). *An essay on fiscal federalism.* Journal of Economic Literature, 37(3), 1120–1149.

57. Obi, K., & Abayomi, L. (2023). *Political economy of fiscal allocation and power relations in Nigeria.* African Journal of Governance Studies, 8(4), 55–71.

58. Obiora, N., & Edeh, P. (2024). *Corruption and fiscal mismanagement in Nigeria's public finance system.* African Governance Review, 18(1), 67–85.

59. Ogbonna, G., & Appah, E. (2020). *Revenue allocation and economic development in Nigeria: An empirical review.* International Journal of Economics and Financial Management, 9(4), 120–135.

60. Ojo, J. (2020). *Federal revenue allocation and infrastructural development in Akwa Ibom State.* Journal of Fiscal Studies and Policy Analysis, 8(3), 99–113.

61. Ojo, M. (2018). *The principle of derivation and the challenges of fiscal federalism in Nigeria.* Public Finance Review, 12(2), 33–49.

62. Okon, E. (2022). *Revenue allocation and economic growth in Akwa Ibom State.* Nigerian Economic Review, 18(2), 54–71.

63. Osuji, C., & Nnadi, F. (2023). *Revenue distribution and sectoral funding in Nigeria.* Journal of Fiscal Policy and Development, 19(2), 110–126.

64. Otu, E. (2021). *Oil wealth and development paradox in Akwa Ibom State.* African Journal of Economic Development, 7(1), 91–105.

65. Ravallion, M. (1998). *Poverty lines in theory and practice.* World Bank.

66. Riker, W. H. (1964). *Federalism: Origin, operation, significance.* Little, Brown and Company.

67. Rogers, P. (2007). *Governance and development: The role of institutions.* Earthscan.

United Nations Development Programme (UNDP). (2015). *Transforming our world: The 2030 Agenda for Sustainable Development.* UN.

68. Rogers, P. (2008). *An introduction to sustainable development.* Earthscan.

69. Sen, A. (1999). *Development as freedom.* Oxford University Press.

70. Smoke, P. (1994). *Local government finance in developing countries: The case for decentralization.* World Development, 22(7), 1039–1056.

71. Stiglitz, J. E., Sen, A., & Fitoussi, J. P. (2009). *Report by the Commission on the Measurement of Economic Performance and Social Progress.*
UNDP. (2020). *Human Development Report 2020: The next frontier—Human development and the Anthropocene.*

72. Tounoin, M. (2004). *Fiscal decentralization and local governance reform in developing economies.* Nairobi: African Governance Forum.

73. Uchendu, C. (2020). *Revenue allocation and health sector development in Akwa Ibom State.* International Journal of Health Economics and Policy, 9(1), 22–36.

74. Udoh, A., & Ekanem, J. (2022). *Decentralization and fiscal responsibility in sub-Saharan Africa.* Journal of Development and Policy Research, 12(1), 67–82.

75. Ukaogo, V., & Agbese, P. (2023). *Derivation and federal revenue politics in Nigeria.* Journal of Political Economy and Governance, 8(1), 35–49.

76. Ukwueze, E. (2020). *Economic diversification and fiscal stability in Nigeria.* Nigerian Journal of Economic Policy, 27(1), 45–61.

77. Umo-Udo, C., Okon, E., & Effiong, M. (2023). *Federal allocations and infrastructural expansion in Akwa Ibom State: Implications for regional economic growth.* Journal of Sustainable Development in Africa, 25(4), 201–218.

78. UNESCO. (2020). *Education for Sustainable Development: A roadmap.* United Nations. (2015). *Transforming our world: The 2030 Agenda for Sustainable Development.*

79. Usoro, E. (2020). *Revenue allocation and infrastructural development in the Niger Delta: A case study of Akwa Ibom State.* Journal of Development Policy and Practice, 8(2), 55–71.

80. Watts, M. (2004). *Resource curse? Governmentality, oil and power in the Niger Delta, Nigeria.* Geopolitics, 9(1), 50–80.

81. Watts, R. (1999). *Comparing federal systems.* McGill-Queen's University Press.

82. World Bank. (2018). *Fiscal decentralization and service delivery.* World Bank Policy Research Report.

83. World Bank. (2020). *World Development Indicators 2020.* Washington, DC: World Bank.

84. World Health Organization (WHO). (2016). *Health, environment, and sustainable development: Goals and policy priorities.* WHO.